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ABSTRACT

A lack of supportive infrastructures in regular education classrooms can cause students with disabilities to flounder. Moving students with disabilities into inclusive classrooms has meant that special educators have less control over managing the factors that foster student success. "ClassMaps" is a strategy for reinstating supportive elements into regular education classrooms that contain students with disabilities. It seeks to enhance academic and vocational success and reduce the need for pull-aside services for a large number of students with disabilities by raising the social and affective quality of the full-inclusion classrooms. It is a whole-class mental health consultation model that makes the social and emotional elements of classrooms visible so that educators can assess the impact of affective supports they provide. Early experiences with the "ClassMaps" model have provided promising evidence of the probes' utility and value. The evidence suggests that the consultation model is useful to teachers solving real problems of practice that occur within their schools. Results do show a need for revision of the Peer Relationship probe to insure broader dispersion of scores, enhanced representation of isolation as well as conflict issues, and enhanced reliability. (Contains 97 references.) (JDM)

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ClassMaps: Reliability and Validity of a School Wide Mental Health Consultation Program[1]

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Rationale

A lack of supportive infrastructures in regular education classrooms can cause students with disabilities to flounder when they are educated in inclusive settings. Strategies for creating effective educational contexts were very much a part of special education while it was delivered through pull-out programs. Moving students with disabilities into inclusive classrooms has meant that special educators have less control over many of the factors that foster student success. ***ClassMaps*** is a strategy for reinstating these supportive elements so that they are integral to the regular education classrooms within which students with disabilities are fully-included. Box B.1 provides a simple analogy that clarifies the essential contribution that ***ClassMaps'*** 'healthy classroom' approach makes towards fully supporting students with disabilities. Like Denver's air quality programs, ***ClassMaps*** seeks to enhance academic and vocational success and reduce the need for pull-aside related services for large numbers of students with disabilities by raising the 'social and affective quality' of the full-inclusion classrooms they are educated in.

By the late 1980s, air quality in Denver had deteriorated badly, with over 100 high pollution warning days in most years. During that time, the metro's hospitals and clinics reported large numbers of patients seeking treatment for respiratory illnesses. Now, in the 1990's, Denver has fewer than 5 high pollution days in most years and medical facilities report a dramatic decline in the number of respiratory illnesses being treated. Thus steps taken to improve the city's air quality reduced the need for direct medical interventions with large numbers of residents.

Box B.1

[1] Presented at the Convention of the National Association of School Psychologists, Las Vegas, NV April, 1999

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The ClassMaps Model: Classroom-Based Mental Health Consultation

ClassMaps is a whole class mental health consultation model that makes the social and emotional elements of classrooms 'visible' so that educators can assess the impact of affective supports they provide and demonstrate the relationships between these and core academic tasks of schooling. The model is built upon 6-steps:

- Step 1: Collect and analyze brief probes of 6 elements of mentally healthy classrooms;
- Step 2: Assemble this information into a graphic description of the 6 elements, a ***ClassMap***;
- Step 3: Examine the significance of the ***ClassMap*** with classroom teachers and students;
- Step 4: Collaboratively plan strategies to alter one or more of the elements in the ***ClassMap;***
- Step 5: Re-collect a ***ClassMap*** to assess consequent changes in the 6 affective elements;
- Step 6: Monitor the impact of classroom changes on the success of at-risk students.

These steps duplicate, on a classroom basis, the elements of effective behavior management that have proven successful in individual management programs. Effective management of individual behaviors occurs when expectations are stated clearly and unequivocally as positive behavioral rules, when students are engaged in discussions about the importance and relevance of rules, when students receive specific, accurate and immediate feedback about their success in meeting these expectations, and when consequences for not meeting the expectations are consistent and mild (Sprick & Sprick, 1991). ***ClassMaps*** applies these same principles to classroom support -- by clearly describing expectations for student support, engaging multidisciplinary teams of educators in efforts to enhance such supports, providing the teams with dependable feedback about their success in meeting those expectations and establishing consequences for not meeting the expectations that are consistent and mild.

Even in inclusive schools, fully-included students with emotional or behavioral disabilities continue to be singled out by mental health services delivered through pull-aside therapeutic groups or student targeted behavior management programs. In some cases, the fact that a student has disabilities may predispose teams to prematurely select out that student as the cause of classroom-wide disruptions. The pervasive misunderstandings that result from such decisions is illustrated by the example in Box B.3. Misunderstandings occur when students with disabilities are singled out for affective programs that fail to fully consider the social context within which their problematic social adjustment has arisen. The *ClassMaps* curriculum provides educators with the skills to evaluate the context of schooling problems prior to selecting out single students for examination.

The team believed that frequent recess conflicts in class 4A were due to Briana, a student with serious emotionally disabilities who often bullied and assaulted her peers. Then brief recess reports, collected from the whole class, showed that recess was boring for many 4A students. Missing or broken equipment limited recess games and most students played 'horde' soccer on two, huge 25-person teams. The crowded soccer field was ripe with arguments, and the game was boring for students on the periphery. Now, attention of the team was refocused away from Briana and towards making more games available on the playground.

Box B.3

The ClassMaps Elements of Mental Health

ClassMaps targets those classroom features that have been empirically demonstrated to be essential to academic success. (See Table 1.) These six elements include school practices that (1) foster students' efficacious self-identities as competent and effective learners (Pintrich & DeGroot, 1990); (2) support student self-determination by providing ample opportunities for students to set and work towards self-selected goals (Peterson, Maier, & Seligman, 1993);

(3) promote appropriate and adaptive student behaviors in ways that enhance self-control and minimize adult-imposed constraints or controls (Shapiro & McQuillan, 1986); (4) foster caring and authentic relationships between teachers and their students (Chaskin & Rauner, 1995; Elias et al. 1997; Haynes & Comer, 1996; Pianta, 1999; Pianta & Walsh, 1996); (5) maximize opportunities for ongoing and rewarding friendships with peers (Doll, 1996), and (6) strengthen home-school collaboration (Finn, 1998; Hoover-Dempsey, Basler & Burow,1995; Sattes, 1985; Steinberg, 1996). These ***ClassMaps*** elements reflect the view that effective school discipline is a two-stranded tether binding students to adults -- one strand emphasizes a self-system of self-determined behavioral management (***ClassMaps*** Elements 1, 2 and 3), while the other incorporates caring and connected relationships between adult caregivers and the student (***ClassMaps*** Elements 4, 5 and 6). For each element, an existing empirical knowledge base has identified plausible interventions that lower student drop out rates, enhance their engagement in scholastic and non-academic activities of schools and communities, enhance their vocational and pre-vocational success, improve their academic performance; or enhance their inclusion in regular education programs of schools. These are the indicators of academic success of students identified as critical by the National Center on Educational Outcomes (1994). Table 1 links the ***ClassMaps*** elements to the NCEO indicators of academic success.

Academic Efficacy

Classrooms should support students' efficacious self-identities as competent students and workers. In common terms, self-efficacy is a construct of self-fulfilling prophesies - students who expect to be successful take steps that make it likely that they will be, while those who expect to fail behave in ways that assure their failure (Bandura, 1986). Students' efficacy beliefs influence such achievement behaviors as choice of tasks, persistence, effort expenditure,

Table 1: Relationships between ClassMaps *elements and academic success*

Lower dropout rates	*Improved engagement*	*Improved vocational success*	*Improved academic performance*	*Enhanced inclusion*
Element 1: Academic efficacy. Self-efficacy describes self-fulfilling prophesies -- students who expect to be successful take steps so that they will be, while those who expect to fail behave in ways that assure their failure (Bandura, 1986).				
	Efficacy was related to cognitive engagement and performance in 7th graders (Pintrich & DeGroot, 1990)	Efficacy beliefs guide students' career choice and the effort/persistence they invest in career preparations (Bandura, 1991).	Students with low academic efficacy behave in ways that limit their success (Licht & Kistner, 1986)	Teachers can raise students' efficacy of through reciprocal teaching and cooperative groups (Schunk, 1991)
Element 2: Behavioral self-control . Self-management strategies empower students with disabilities to change or maintain their own behavior, and so promote independence and behavioral competence within and outside school settings (Cole & Bambara, 1992).				
		Self-management can teach job-related skills to students with learning disabilities (Shapiro & McQuillan, 1986)	Reciprocal peer tutoring, significantly improved academic achievement for urban students (Fantuzzo & Rohrbeck, 1992)	
Element 3: Academic self-determination. Students who can advocate effectively for their own educational needs are more likely to advocate for job conditions that promote success, or for access to governmental and community services (Fisher, 1985; McWhirter & McWhirter, 1990; Ness, 1989).				
	Students who lack self-determination skills acquire a passive, maladaptive learning style (Peterson, Maier, & Seligman, 1993)	Lack of autonomy and self determination contributes to adult adjustment problems (Phillips, 1990; White, 1992)	Autonomous students have greater internal motivation and higher achievement (Deci, Hodges, Pierson & Tomassone, 1992)	Self-determination empowers students to become fully-included adults (Sands & Doll, 1996)

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Lower dropout rates	*Improved engagement*	*Improved vocational success*	*Improved academic performance*	*Enhanced inclusion*
Element 4: Effective student-teacher relationships. Effective interactions between students and teachers (and other adults) are critical to soothing student frustration and alienation, especially for impoverished youth (Comer, 1993; Bosworth, 1995; Chaskin & Rauner, 1995). Academic and behavioral outcomes for children are mediated by classroom environments (Lalo-Delello, 1998).				
Caring relationships raised graduation rates of high risk students (Boyer, 1983; Comer, 1993).	Caring schools had improved attendance and classroom engagement (Chaskin & Rauner, 1995; Comer, 1993)		Caring schools showed improved academic performance of high risk students (Baker, Terry, Bridger & Winsor, 1997; Comer, 1993)	
Element 5: Effective peer relationships . Within peer friendships, students learn to act as independent and competent social agents (Hartup & Laursen, 1989; Sluckin, 1981; Sutton-Smith, 1971) and master cooperation, competition and intimacy (Hartup, 1989a, p. 120).				
Unliked students were five times more likely to drop out of school than popular students (Barclay, 1966)	Friends help with academic tasks (Wentzel, 1991) and alter student's attitude (Ladd & Price, 1987)	Students without friends are more likely to be un- or under-employed adults (Dodge, 1989)	Peer social networks predict student academic success (Berndt & Das, 1987)	Students without friends were more often moved into self-contained programs (Schonert-Reichl, 1993)
Element 6: Effective home-school relationships . Parent involvement in their children's education fosters higher grades and achievement test scores (Comer, 1993), academic perseverance (Estrada, Arsenio, Hess & Holloway, 1987), and active engagement in learning (Sattes, 1985).				
Drop out rates are lower when parents are involved in schools (Rumberger, 1995)	Students' attendance is higher and suspensions are lower when parents are involved (Rumberger, 1995; Sattes, 1985)		Parent involvement fosters higher grades and achievement test scores (Christenson, Rounds & Gorney1992; Fehrmann, Keith & Reimers, 1987; Finn, 1998; Haynes & Comer, 1996; Riley, 1996)	

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skill acquisition, the way they organize the task, and whether or not they take actions necessary to be successful (Schunk, 1989a, 1991). Finally, positive futures are promoted through the efficacious beliefs that guide students' choice of careers and the amount of effort and persistence they invest in career preparations (Bandura, 1991).

Students construct self-perceptions of their classroom competence from four sources (Bandura, 1986): (1) Teachers' communications of their faith in the students' capabilities, conveyed either by statements of confidence or, just as importantly, by allowing and encouraging students to perform challenging tasks; (2) Students' judgments of their competence derived from their internal physiological arousal. (A student who experiences sweaty palms, dry mouth and butterflies in the stomach before giving a class presentation is likely to interpret these physiological signs as evidence of incompetence); (3) Students' vicarious judgments that their task competence will be very similar to that of peers they identify with; and (4) Students' prior performance on similar tasks. Learners also weigh and combine the contributions of task difficulty, amount of effort expended, and amount and type of assistance provided from others (Schunk, 1989b).

The influence of teachers and the classroom learning environment on students' views of themselves as competent, effective learners is clear. Learning disabled students tend to hold a low sense of efficacy for performing well academically (Licht & Kistner, 1986) and are often judged by their teachers as being less capable than nondisabled students even when they perform adequately (Bryan & Bryan, 1983). Still, positive statements by the teacher about their competence can raise their efficacy beliefs (Schunk, 1989b). Similarly, when students can be shown their own progress toward learning goals (completing workbook pages or sections of a term paper) they come to believe they are

capable (Schunk, 1989b). Teachers may influence the efficacy beliefs of students in their classes by providing feedback that alerts students to their actual academic competence, providing learning activities that are challenging but still within the range of students' capabilities, and providing peer models of mastery through reciprocal teaching or the use of collaborative student groups (Schunk, 1991).

Behavioral Self-Control

Classrooms should promote appropriate and adaptive student behaviors in ways that enhance self-control. Teachers' systematic manipulation of behavioral antecedents and consequences have proven impact on school's academic goals by increasing classroom participation (Narayan, Heward, Gardner, Courson, & Omness, 1990), and reducing serious problem behaviors (Charlop, Burgio, Iwata, & Ivancic, 1988). Still, strict external behavioral contingencies may prevent students with disabilities from controlling their behavior outside the presence of the adults who notice and cue it (Cole & Bambara, 1992; Kazdin, 1975).

Increasing emphasis is being placed on self-management strategies, which empower students with disabilities to change or maintain their own behavior, and so promote independence and behavioral competence within and outside school settings (Cole & Bambara, 1992). In self-management training, students are taught strategies that increase their appropriate academic or social behavior and/or decrease inappropriate behavior (Cole & Bambara, 1992). Multiple component programs integrate self-monitoring, self-evaluation, and self-reinforcement and subsequently increase the appropriate classroom behavior of secondary students with severe emotional disabilities (Rhode, Morgan, & Young, 1983; Smith, Young, West, Morgan, & Rhode, 1988).

Similarly, self-control strategies such as cognitive restructuring and coping skills training have been effective in reducing symptoms of depression in young adolescents (Grossman & Hughes, 1992). Reciprocal Peer Tutoring extends self-management to a class-wide level through the addition of group interdependent reward contingencies and reciprocal peer teaching. The strategy led to significant improvement in academic achievement and self-control in a group of inner city intermediate grade students (Fantuzzo & Rohrbeck, 1992). Self-management techniques and problem-solving have also been used successfully to teach job-related skills to adolescents with learning disabilities (Shapiro & McQuillan, 1986).

Academic Self-Determination

Classrooms should foster student self-determination. Initial interest in student self-determination originated from evidence that students with disabilities who advocated effectively for their own educational goals were more likely to advocate effectively for employment conditions that permitted them to be successful or for appropriate access to governmental and community services (Fisher, 1985; McWhirter & McWhirter, 1990; Ness, 1989). Subsequently, it became evident that the rewards of autonomy-oriented classrooms are impressive for all students. Autonomous students are more curious, demonstrate preferences for more challenging tasks, display higher independent mastery attempts, and indicate higher self-efficacy and perceived competence (Deci & Ryan, 1992; Pintrich, Roeser, & DeGroot, 1994; Schunk, 1996; Sisco, 1992). Increasing student self-determination has been shown to be positively related to quality engagement in learning activities, higher levels of conceptual learning, and increased retention (Ames, 1992). Middle school students who set and monitor their own academic goals were more

focused on learning and mastery, used cognitive strategies and regulated their own thinking and effort when classes provided them with some choice of task and allowed them to work with others (Pintrich, Roeser, & De Groot, 1994). Students perform at higher academic levels, show more academic persistence and have higher perceptions of academic self-efficacy when they are working towards academic goals that they value (Harackiewicz, Manderlink, & Sansone, 1992; Meece & Courtney, 1992; Schuldt & Bonge, 1979).

Evidence exists that students can be helped to use academic goal-setting and decision-making skills more adeptly and more frequently (Beal, Garrod, & Bonitatibus, 1990; Butler, 1990; Ghatala, 1986; Paris & Oka, 1986). Because most of the precursors to self-determination are intact in the typical adolescent, the primary emphasis of adult support for students at this level is the provision of frequent and varied opportunities to practice self-determination behaviors (Doll, Sands, Wehmeyer, & Palmer, 1996; Wehmeyer, Sands, Doll & Palmer, 1997). Further, research indicates that it is critical to assist teachers and other significant adults to participate in and be supportive of student self-determination and student autonomy (Adelman, 1986; Garner, 1990; Schneider, Borkowski, Kurtz, & Kerwin, 1986; Sapir, 1986).

Effective Student-Teacher Relationships

Schools should foster caring relationships between teachers and their students. Caring relationships among students, teachers and other adults in a school "*often make the difference between positive school experiences and frustration or alienation*" (Chaskin & Rauner, 1995). Teacher caring, warmth, and support have been associated with increased academic engagement and student satisfaction with school. Systematic attention to the

quality of relationships and to students' social-emotional learning has a positive effect on students' achievement, behavior, social competence and self-esteem, parent connectedness with the schools, and teachers' self-efficacy and job satisfaction (Elias et al. 1997; Haynes & Comer, 1996). Conversely, "at-risk" students and those with disabilities spend significantly less time academically engaged, (Lalo-Delello, 1998). These students are the most vulnerable for growing up without caring relationships. Promoting academic and social competence among such students can be an essential piece of helping them become resistant to the lure of drugs, teen pregnancy, violence, gangs, truancy and dropping out of school and other negative adult outcomes. (Elias et al. 1997). Garbarino (1992) estimates that 75-80 percent of students can use school activities as a support for healthy adjustment and achievement when schools are sensitive to their needs and their burdens.

Student-teacher relationships are an important feature of the classroom learning environments that mediate differential behavioral and academic outcomes (Lalo-Delello, 1998). School failure seems related to these environmental factors and may be reflective of a deeper problem of relationships within schools (Pianta & Walsh, 1996). Research suggests that isolation and the lack of personally meaningful relationships at school are major contributors to academic failure and "dropping-out" (Elias et al. 1997; Baker, Terry, Bridger & Winsor, 1997). Studies of school dropouts repeatedly identify the lack of anyone who cared about them as the main reason for leaving school (Boyer, 1983; Phelan, Davidson & Cao, 1992). A student's relationship with supportive teachers appears to be a major factor associated with dropout prevention. A favorite teacher can

serve as a confidante and a positive model for personal identification (Werner and Smith, 1989).

The importance of teacher-student relationships in schools serving impoverished or minority youth is emphasized in the work of Comer (1993), Bosworth (1995) and Chaskin and Rauner (1995). Comer's work suggests that unless schools are able to recreate a sense of community in our schools, they are unlikely to touch the lives of inner-city poor children in any meaningful way. Similarly, Bosworth's work suggests the importance of daily acts of concern and caretaking if the lives of students are truly to be touched. She includes classroom examples of helping students with schoolwork, valuing their individuality, showing respect for students, being tolerant, checking to see that students understand, actively encouraging students, and building in opportunities for fun.

Effective Peer Relationships

Schools should maximize opportunities for ongoing and rewarding peer friendships. Peer friendships are the arena within which students learn to act as independent and competent social agents (Hartup & Laursen, 1989; Sluckin, 1981; Sutton-Smith, 1971) and within which "the complexities of cooperation and competition are mastered and 'intimacy' in social relationships is first achieved" (Hartup, 1989a, p. 120). Having friends ameliorates the emotional hazards of growing up by making it easier for students to ask for assistance in times of stress and much more likely that they will receive it (Heller & Swindle, 1983; Ladd & Oden, 1979). Moreover, friends provide substantial assistance with academic tasks (Schunk, 1987; Wentzel, 1991) and strongly influence a student's motivational response to school (Ladd & Price, 1987; Wentzel, 1991). Students who had been unliked in third grade dropped out of middle

school at a rate that was five times that of popular students (Barclay, 1966; Kupersmidt, Coie & Dodge, 1990). In two studies of young black adolescents, the adequacy of peer social networks was a significant predictor of academic success, especially if the peers valued academic achievement (Berndt & Das, 1987; Clark, 1991). Students having friendship difficulties that are more frequent and enduring than those of their peers are at risk as adults to be unemployed or underemployed, lack independence, be overly aggressive, or experience serious mental health problems (Berndt, 1984; Dodge, 1989; Guralnick, 1986). More immediately, having persistent and marked difficulties with peers is one of the most common reasons why staffing teams recommend moving students with disabilities into self-contained programs of service (Hollinger, 1987; Schonert-Reichl, 1993).

Traditionally, schools have intervened with children's friendships one student at a time (Asher, 1995; Doll, 1996). More recently, systemic intervention programs have refocused attention on the social systems of schools. For example, Higgins (1994) describes ways that the context of school grounds can be altered to control for peer bullying. Conflict mediation programs are being used to teach key students in a building the skills necessary to resolve peer conflicts in non-violent ways (Girard & Koch, 1996). Rizzo (1989) suggests that schools create multiple roles for students to fill that, incidentally, force students into new interactions with each other. Finally, Doll (1996) describes multiple strategies for blending these school-based interventions with the formerly prominent social skills training programs.

Effective home-school relationships

Schools should strengthen home-school connections. There is a strong positive relationship between student achievement and an effective relationship between the school and home. Parent involvement in their children's education has been demonstrated to foster higher grades and achievement test scores (Comer, 1993; Fehrmann, Keith & Reimers, 1987; Steinberg, 1996), academic perseverance (Estrada, Arsenio, Hess & Holloway, 1987) and active engagement in learning (Sattes, 1985). More importantly, student attendance rates are higher and suspensions and drop-out rates are lower when parents are involved (National Center for Educational Statistics, 1992; Rumberger, 1995; Sattes, 1985). Conversely, parental disengagement from their children's education and aspirations is associated with poor attendance, higher dropout rates and increased incidence of delinquency and teen pregnancy (Steinberg, 1996). Enthusiasm over the potency of parent involvement in schools is offset by the knowledge that most parents do not maintain a striking presence in their child's school and secondary parents are by far the least involved in their children's school experiences (Christenson, 1995; Davies, 1993; Epstein, 1995).

The impact of meaningful parental involvement in school is especially pervasive and enduring when both home and the school actively promote academic and social competence (Elias et al. 1997) and especially when schools foster *specific* home behaviors that promote students' academic success (Hoover-Dempsey, Basler & Burow,1995; Steinberg, 1996). Moreover, student achievement is impacted more significantly by parental interest and participation in their children's schooling that occurs ***within the home*** than by a parental presence in the school building itself.

Parents tend to be highly and consistently involved in their children's schooling when they believe their participation is directly related to their children's achievement (Finn, 1998). For example, parents reported that they would like more information about how to monitor their children's progress in school, information on how to reinforce school learning at home, and information about typical development and parenting practices that foster healthy adjustment (Christenson, 1995). Not surprisingly, efforts made by the school to involve parents contributes more to parental involvement than even parent's educational attainment or the family's income levels (Finn, 1998). The most successful efforts are those that are comprehensive, convenient for families, clearly relevant to the children's success, and collaboratively planned and delivered. School efforts are especially successful when they place special emphasis on maintaining trusting, honest, respectful relationships with parents (Schorr, 1988, 1997).

The ClassMaps Probes

The ***ClassMaps*** probes are designed to assess these elements of classroom context in ways that are minimally intrusive and eminently practical for classroom use. Modeled after the brief scholastic measures used in Curriculum Based Measurement (CBM; Shinn, 1991), ***ClassMaps*** probes are selected to be brief to administer, easy to code and analyze, easily converted to graphic display, and to represent common-sense reflections of the 6 elements. The probes' brevity makes them easy to administer repeatedly without serious disruptions of learning, their graphability makes it easy to visualize and plan from trends in the information, and their sensibility predisposes teachers and students to pay attention to their results. Table 2 describes the origin of the 6 ***ClassMaps*** probes.

Table 2: Sources of the ClassMaps probes

Element	*ClassMaps Probe*	*Source*
Academic Efficacy	Things I believe	Pintrich & DeGroot, 1990
Behavioral Self-Control	Student Observation System	BASC; Reynolds & Kamphaus, 1992
Self-Determination	Things I do	AIR, 1997
Student Teacher Relationship	Communication Survey	Ainsworth, Bell & Stayton, 1971
Peer Relationship	Today at Lunch	Doll, 1996; Doll & Murphy, 1996
Home-Class Relationship	Home School Connection	Finn, 1998

Since the original research instruments used to assess the 6 elements were not sufficiently brief or practical, these were modified to meet the specifications. In most cases, modifications included shortening the measure or using a subscale, adapting the scale to be developmentally appropriate to middle school students participating in the ClassMaps project, and changing the scale's response format so that it was brief and intuitively simple to respond and code. A first draft of all scales was piloted within the Middle School six months before this study. Next, drafts of the probes were shown to middle school teachers and modifications were made as they suggested them. Finally, focus groups of middle school students were convened to review and refine each of the ClassMaps probe. Within each focus group, middle school students completed a single probe, and then discussed what their answers meant from their perspectives. Second, the focus group was asked to identify any words or concepts in the probes that were confusing, and to comment on the clarity of the response format and suggestions. Focus group responses were used to modify initial drafts into the final probes.

Academic Efficacy Probe.

The *Self-Efficacy* and *Intrinsic Value* scales of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich & De Groot, 1990) were modified to assess students' beliefs regarding their ability to be successful academically. The original scales included 18 self-report items that measured a students' beliefs about their ability to perform an academic task and be responsible for their own performance, and their ratings of the importance and interest of the task. In modifying the scale for this study, the wording of several items was changed to improve its intelligibility with middle school students. Next, because academic efficacy is expected to be different in different subjects, items were modified to ask students to decide whether the efficacy statements applied to any or all of their four core subjects: math, communication, science and social studies. To administer the final version of the Things I Believe Scale, students were told that ClassMaps was interested in knowing how they feel about their class subjects. They were asked to circle all the choices that were true for them. For example:

I do well in ....

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Responses were coded by counting the number of subjects circled for each of the six items. Total scores could range from 0 (no subjects circled for any item) to 24 (all subjects circled for all items).

Behavioral Self-Control Probe.

Self-controlled behavior was assessed through a modified version of the Student Observation System (SOS) of the Behavior Assessment System for Children (BASC) (Reynolds & Kamphaus, 1992). The SOS consists of a momentary time sampling period of 15 minutes, permitting assessment of the frequency of occurrence of 13 behaviors

related to successful and unsuccessful classroom performance. To determine the degree to which behavior was self- versus teacher-managed, observers were instructed to observe the teacher and a student during alternate intervals. During teacher observation intervals, observers noted the occurrence of any verbal or gestural prompts to behave appropriately. During student observation intervals, observers systematically targeted a different student during each 30-second interval so that by the end of the 20-minute observation, 20 students had been observed. The final observation yielded two scores: the percentage of intervals in which only appropriate student behavior was noted and the percentage of intervals in which teachers prompted good behavior.

Academic Self-Determination Probe.

Student self-determination was assessed using a modified "Things I Do" scale of the AIR Self Determination Scale (American Institutes for Research, 1997). This is a 16 item scale designed to assess the degree to which students feel 'in control' of events in their immediate lives. Although not formally standardized for students without disabilities, informal communication from the author verified that it had been successfully used with students with and without disabilities. In modifying the scale for this study, the wording of several items was changed to improve its intelligibility with middle school students. Next, because early trials showed that students were quite indiscriminant in their responses to the original true-false items of the AIR, items were modified to concretely ask students to whether the statements applied to any or all of their four core subjects: math, communication, science and social studies. To administer the final version of the Things I Do Scale, students were told that ClassMaps wanted to know about the things they do in school. For example

I can tell when I have made a mistake in my schoolwork in ...

Math Communication Science Social Studies

Responses were coded by counting the number of subjects circled for each of the six items. Total scores could range from 0 (no subjects circled for any item) to 24 (all subjects circled for all items).

Student-Teacher Relationships Probe.

The quality of student-teacher relationships was evaluated utilizing the **Student-Teacher Communication Survey**. The survey was adapted from Ainsworth, Bell and Stayton (1971) whose focus was on the degree of maternal sensitive responsiveness in the mother-child attachment relationship. An attachment scale was chosen as the model because early attachment experiences have been shown to provide an important foundation for student-teacher interactions. Moreover, attachment security has been linked to peer relationships, emerging literacy, and problem solving in school situations (Pianta & Walsh, 1996). To administer the Student-Teacher Communication Survey, students were told that ClassMaps would like to know how things were going for them with their teachers. They were told to "circle the one that is true – the answer that makes the most sense." For example:

When I talk with teachers in my cluster, I know they are really listening

Yes No Sometimes Hard to tell

For each item, "Yes" was coded as "2", "Sometimes" and "Hard to Tell" were coded as "1", and "No" was coded as "0". Total scores could range from 0 (responses of "No" to all items) to 14 ("Yes" responses to all items).

Effective Peer Relationships Probe.

The adequacy of students' peer relationships was assessed with a variation of recess reports (Doll, 1996; Doll & Murphy, 1996). Immediately after their lunch period, students completed a 7-item forced choice survey describing seven problems: having a rotten time, sitting alone, having a bad argument with other students, not being allowed to join other students at lunch, being teased, getting in physical fights, and losing a friend. To administer the final version of the Today at Lunch Scale, students were told that residents would like to know how things were going for them outside at lunch recess. For each question, students were to circle the one answer that was true. For example:

Circle the one that is true. Today at lunch,

I spent my lunch time with friends	Neither one is true	I spent my lunch time alone

For each item, circled problem statements were coded as "1" while non-problem statements and "neither one is true" were coded as "0". Total scores could range from 0 (no problems) to 7 (all seven problems).

Effective Home-School Relationships Probe.

Items describing Home School Connections were taken from the *Study Skills for Success* interview (Forgatch & Ramsey, 1994). The SSFS interview incorporates questions relating to parents' knowledge of their student's homework activities and parent-student program approval ratings. To administer the final version of the Home-

School Connection Scale, students were told ClassMaps was interested to know how much they talk with their parents regarding school. They were told.to "circle the one that is true - the answer that makes the most sense". For example,

Do you talk to your parents about your grades?

Yes No Sometimes I'm not sure

For each item, "Yes" was coded as "2", "Sometimes" and "I'm not sure" were coded as "1", and "No" was coded as "0". Total scores could range from 0 (responses of "No" to all items) to 16 ("Yes" responses to all items).

ClassMaps Consultation

Results of the ClassMaps probes were analyzed, graphed and shared with teachers through a process of collaborative consultation (Parsons & Meyers, 1984). Consultation has been defined as "a voluntary, nonsupervisory relationship between professionals from differing fields designed to aid professional functioning" (Conoley & Conoley, 1992, p.1). Collaborative consultation emphasizes the role of differing expertise among different participants in the joint effort (Friend & Cook, 1996). ClassMaps collaborative consultation focused on planning interventions to enhance the classroom context in light of the results of the ClassMaps probes. Similar data-based consultation efforts have been useful in other studies to increase task focused goal orientation in students (Maehr, Midgley & Urdan, 1992) and to increase student self-efficacy (Anderman & Midgley, 1992).

ClassMaps consultants were formed into teams and assigned to the school-determined clusters of classroom teachers and their students. The teams met with teachers prior collecting the probes to clarify specific questions the teachers wanted

answered by the ClassMap. Following collection and analysis of the ClassMap, consultants and teachers met jointly to discuss the meaning of the findings and design interventions to address needs defined by the teachers. In an innovative effort to extend the consultation model itself, graphs of the data were often shared with the students in their classrooms to obtain their reactions and ideas for intervention. Simultaneously, *ClassMaps* consultants designed and implemented interventions, monitored the progress of the consultative process and gathered data on their own consultation skills by means of Consultant Logs completed after every session.

ClassMaps Pilot Study

This paper describes preliminary results of a pilot study of the *ClassMaps* model in an urban middle school. The study was conducted as part of a larger personnel preparation project in which 12 ClassMaps residents were trained to focus on the classroom environment within which students with disabilities were fully included. ClassMaps Residents were drawn from graduate students in the Initial Teacher Education, School Psychology and Special Education programs.

ClassMaps probes were collected in the late fall semester from students with and without disabilities in 21 middle school classrooms. Results of the probes were immediately shared with the classroom teachers and students enrolled in the classrooms. Next, ClassMaps residents worked with the teachers and students to plan, implement and evaluate interventions to alter the classroom environment, making it more conducive to learning. This paper will report on the initial administration of the ClassMaps probes, including their reliability, the structure of the ClassMaps model, and the interrelationships among the ClassMaps elements. Subsequent results from this study

will examine relationships between the ClassMaps elements and students' disability status, and the probes power in predicting student academic engagement in the classrooms.

The Site and Study Participants

466 students participated in the *ClassMaps* pilot study from 21 sixth, seventh and eighth grade regular education classrooms of an urban middle school in the Southwest United States. The school's classrooms are organized into clusters staffed by four regular education teachers, one special education teacher, and additional paraeducators as needed to serve students. Approximately 120 student are enrolled in a typical cluster, and complete all of their core academic subject studies with that cluster's teachers. Students stay with the same cluster teachers as they move from the sixth to seventh and eighth grades, a strategy devised to enhance the teachers' familiarity with students and their families.

Students served by the middle school have a median income of only $14, 739, and 77% qualified for free/reduced lunches based on poverty/near poverty status. Over 32 percent of families were headed by single parents, including many teen parents. Nearly 53% of the middle school's students are minority: 47% Hispanic, 3% Black, 2% Native American, 1% Asian and 47% European-Origin. The district had an 89% increase in language minority students and a 300% increase in migrant students between 1990 and 1995, three years before this pilot study began. A 1995 literacy survey of area residents found that 49% of children in the community did not speak English well. The school is struggling with an extraordinarily high student dropout rate, with only 35% of the community's adolescents graduating from high school. Paradoxically, the district's

expulsion rate is one of the lowest in the metropolitan area, and its suspension rates for minority students are in proportion to their representation in the district enrollment.

Students with disabilities represent approximately 14% of the school's total enrollment; on average, between 15 and 30 students with disabilities are enrolled in a typical cluster's classrooms. Because of the district's endorsement of inclusive programs for students with disabilities, 85% of these students are assigned to regular education classrooms with varying levels of supports. Another 5% spend less than 5% of their day in special education resource rooms. Only 11% of the students spend more than 20% of their time in segregated settings.

Participation in ClassMaps was optional for the middle school's teachers, but six of the school's seven clusters decided to participate. For students within those clusters, announcements were mailed to students' homes and they were given the option to not participate at parents' request. However, no parents made this request and all students were included in the ClassMaps activities unless they were absent that day. (Absentee rates in the schools average 19% daily.)

Collection of probes

ClassMaps probes were collected by *ClassMaps* residents from all students in the 21 participating classrooms at the end of the first academic quarter. When administering probes, residents provided clear directions along with a demonstration of how their answers were to be recorded using an overhead transparency. Probes were read to the class, but students were permitted to read ahead if they chose to do so.

Probes were coded and entered by the ClassMaps residents, and preliminary analyses of the results for each cluster were conducted within 3 weeks. Results were then

graphed and presented to the classroom teachers, the students in the class, and the school's building leadership team.

Results

Means, standard deviations, and alpha coefficients for the Fall 98 middle school ClassMap probes are described in Table 3. Results are reported for five of the six probes that were student surveys. The Behavioral Self-Control probe yields a single set of scores for each classroom and there were not sufficient numbers of classrooms in this study to permit analysis of its psychometric properties.

The means and standard deviations show good dispersion of scores with the exception of the Student Teacher relationships and Peer Relationships. Alpha coefficients for each probe fall above .75 with the exception of the Peer Relationships probe, representing excellent internal consistency.

Table 3: Internal consistency of the ClassMaps probes

Element	Scale	Mean	Standard Deviation	Alpha
Academic Efficacy	Things I Believe (6 items)	10.79	7.09	.89
Self-Determination	Things I Do (6 items)	16.45	7.59	.93
Student-Teacher Relationships	Communication (7 items)	10.63	2.87	.82
Peer Relationships	Today at Lunch (5 of 7 items)	4.68	.788	.65
Home-School Relationships	(8 items)	10.86	3.49	.77

Table 4: Factor loadings of the ClassMaps probe items[2]

Item and Scale	Factors I	II	III	IV	V	VI	VII
Things I Believe (Academic Efficacy)							
I do well in.	.346	.748					
I expect to do better than others		.780					
I can understand what is taught in	.371	.717					
I can learn more than other kids in		.831					
My teacher things I do a good job	.345	.643					
I like work that is really tough		.764					
Things I do (Self-Determination)							
I want to have a good grade	.844						
I can tell when I made a mistake	.722						
I know what to do to get a good grade	.790	.305					
I can make myself do those things	.831						
I make sure I find help	.831						
I keep on trying	.816						
Student-Teacher Connections (Student-Teacher Relationships)							
I like going to this school				.372		.733	
I know teachers are listening				.801			
I can tell teachers understand me				.726			
Teachers help me be a good student				.637			
Teachers respect me				.684			
Teachers believe I can succeed				.700			
Enjoy being in this cluster				.363		.668	
Lunch Reports (Peer Relationships)							
Had rotten time							.412
Had to sit alone							.808
Had arguments					.560		
Could join others					.610		.319
Was teased					.711		
Had a physical fight					709		
Lost a friend					.784		
Home – School Connection (Home School Relationship)							
Talk to parents about grades			.659				
Talk to parents about schedule			.627				
Talk to parents about homework problems			.734				
Talk to parents about after-school activities			.237				
Talk to parents about good things done			.669				
Talk to parents about problems/fights			.661				
How often take homework home			.358			.334	
How often do parents help with homework			.635				

[2] Only loadings greater than .3 are reported

Construct Validity.

The factor analysis of the 34 ClassMaps scale items is included in Table 4. Results show that these factor neatly into the 5 ClassMaps elements that are assessed through survey. Factor 1 represents Self-Determination, Factor 2 represents Academic Efficacy, Factor 3 represents Home School Relationships, Factor 4 represents Student Teacher Relationships, and Factor 5 represents Peer Relationships. Factor 6 appears to incorporate a sub-component of student-school relationships: student satisfaction with school. Factor 7 represents a sub-component of peer relationships that addresses inclusion in the peer culture, while the primary factor is more reflective of peer conflict.

Table 5: Inter-correlations among the ClassMaps Probes

	Academic Efficacy	Self-Determination	Student-Teacher Relationships	Peer Relationships	Home School Relationships
Academic Efficacy	1.00				
Self-Determination	.592*	1.00			
Student-Teacher Relationships	.154*	.132*	1.00		
Peer Relationships	-.008	.053	.191*	1.00	
Home School Relationships	.173*	.118	.444*	.009	1.00

* $p < 0.01$

Table 5 describes correlations among the five ClassMaps total probe scores. Results show that the strongest correlations are evident between Academic Efficacy and Self Determination and between Student-Teacher and Home-School Relationships.

Table 6 describes a factor analysis of the five ClassMaps total probe scores. Results divide cleanly into two factors: Factor 1 represents the elements of the self-

system, including self-efficacy and self-determination. Factor 2 represents the three elements of relationships including peer, home-school, and student-teacher relationships.

Table 6: Factor loadings of the ClassMaps Probe Totals[3]

ClassMaps Elements	Factors	
	Self-System	**Relationships**
Academic Efficacy	.895	
Self-Determination	.888	
Home-School Relationships		.747
Peer Relationships		.427
Student-Teacher Relationships		.848

Results of ClassMaps consultation

To date, results of the ClassMaps consultation have been assessed primarily through case examples with classrooms. Teachers in the middle school have used the ClassMaps consultation to successfully address concerns with students conduct during the lunch recess, problem teacher-student relationships in a first-year teacher, and raising student motivation to meet mandatory standards for graduation.

Teachers of a 6th grade cluster were concerned about the peer relationships among the 105 students in their cluster. During the lunch recess, there were frequent fights that sometimes led to student suspensions and invariably brought students back into the classroom in an excited mood. Teachers struggled to settle the class back into a post-lunch work routine. It was a surprise, then, when the ClassMaps "Lunch Reports" showed that lunchtime conflicts within the cluster were not unusually frequent. Instead,

[3] Only factor loadings greater than .3 are reported

the most striking finding of the ClassMap was that students were having a rotten time during their break, even when a fight had not occurred. The cluster determined that students were bored by the lack of lunch-time activities. They purchased some sports equipment and arranged for some games and competitions during the break. Recess problems dropped significantly subsequent to the increased activities.

In one 7th grade cluster, the ClassMap showed that student-teacher relationships were less satisfactory than in the rest of the school. Discussion of the results with teachers and students led to a decision to analyze the student-teacher relationships separately for each teacher in the cluster. In fact, the relationships were only problematic with a single, first year teacher who was beginning to question his decision to enter the teaching profession. The rest of the cluster began to support this teacher, set clear standards for the treatment of students, and engage him in frank discussions about their expectations of teachers.

In a different 7th grade cluster, the math teacher wanted to engage the students' commitment to meeting district promotion standards. Still, the ClassMap showed that students lacked confidence in their ability to do so. A comprehensive goal-setting unit was implemented within the class during which students made plans to improve their preparation for standards assessments, kept a chart of their activities in carrying out the plan, and reviewed the chart and plan at regular intervals to review and revise them.

Discussion

Early experiences with the ClassMaps model have provided promising evidence of the probes' utility and of the consultation model's value. Results demonstrate the promising internal consistency reliability of the ClassMaps probes despite their brevity.

Moreover, the fact that the probe items factor cleanly into the five elements is encouraging evidence of these elements' differentiation. Results do show a need for revision of the Peer Relationships probe, to insure broader dispersion of scores, enhanced representation of isolation as well as conflict issues, and enhanced reliability. Current efforts are engaged in collecting data to describe relationships between the ClassMaps probes and important indices of school engagement including student attendance, tardiness, work completion and standards assessments.

Similarly, early evidence suggests that the ClassMaps consultation model is useful to teachers solving real problems of practice that occur within their schools. Moreover, the model has received good administrative support within the middle school. The school principal commented that teachers' conversations about their students have shifted into topics about how students perceive the act of learning and how teacher actions can influence these perceptions. A central school district administrator described ClassMaps as analogous to a fish bowl: where most interventions focus on the behavior of the fish, he explained, ClassMaps focuses on the health of the water. Future research will use the ClassMaps probes to track changes in the classroom context subsequent to sharing ClassMaps results with teachers and students.

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